REMARKS/ARGUMENT

This is in response to the Office Action dated February 12, 2003.

In that Office Action, the single sheet of drawings was objected to as being of unacceptable quality due to the presence of dark speckle. Accordingly, a new, clean sheet of drawings is submitted herewith.

As suggested by the Examiner, Applicant has requested that the specification be amended to correct three typographical errors, on pages 1, 4 and 5. On page 1, at line 17, redundant words "one kilometer" are to be deleted. On page 4, at line 8, and on page 5, at line 10, the word "and" has been changed to --an--. Each of these changes corrects obvious typographical errors and does not introduce any new matter.

Claims 12, 15, 16, and 18 were objected to on the basis that, in line 5 of claim 12, "said digital" should actually be "said digital data", and, in line 1 of each of claims 15, 16, and 18, "reproducing" should actually be "producing." In this Amendment Applicant has made these requested amendments to the claims.

Claims 10 and 11 were rejected under 35 U.S.C. § 112, second paragraph, on the basis that there is no support for the term "said serial-to-parallel bit converter." As the Examiner correctly suggested, this is because claim 10 should have been dependent from claim 5, rather than claim 1. In this Amendment, claim 10 has been amended to correct this deficiency by making claim 10 dependent from claim 5.

In addition, claims 12 – 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Deloddere et al. U.S. Patent No. 5,777,765. Although Applicant believes that, correctly construed in light of the specification, claim 12 and the claims dependent therefrom patentably distinguish over the Deloddere reference, in this

Amendment claim 12 has been clarified by, in line 3, thereof, deleting "corresponding" and inserting --whose code is based on the code of --.

Applicant's method differs fundamentally from the method implemented by the disclosure of the Deloddere et al. patent. In Deloddere et al. the input optical signal is demodulated to produce an electrical signal, the electrical signal is amplitude sampled, a digital word representative of the amplitude of the sample is produced by an analog-to-digital converter, and the digital word is transmitted through a delay line. Thus, the electrical signal is treated as an analog signal, regardless of whether the light carries digital or analog information. (Applicant does not agree that the optical signal received by the Deloddere et al. device is "obviously" binary, or digital, but submits that Applicant's claimed method is patentably distinct regardless.)

In contrast, in Applicant's method a digitally-modulated input optical signal is demodulated to produce a serial electrical code representative of the modulation code, and that serial code is converted to a parallel code for transmission through a delay line. Thus, in Applicant's method the digitally-encoded electrical signal that is applied to the delay line is actually based on the modulation code of the optical signal input, whereas in the method implemented by the Deloddere et al. patent the digitally-encoded electrical signal applied to the delay line corresponds instead to the amplitude of samples of the input signal, whether that input signal is digitally encoded or not. This fundamental distinction has been clarified by the afore-mentioned amendment to claim 12, which now calls for producing a digitally-encoded electrical signal "whose code is based on the code of" the input digitally-encoded optical signal.

Since the Deloddere et al. patent is based on a fundamentally different concept for and approach to emulating an optical fibre, it does not suggest or otherwise render obvious the method of claim12 and those claims dependent therefrom.

Accordingly, Applicant submits that all of the claims remaining in this case are now in condition for allowance and respectfully requests the Examiner to enter the amendments, allow these claims and pass this case to issue.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claims 10, 12, 15, 16 and 18, have been amended as follows:

10. (Amended) The optical fibre emulator of claim ~~1,~~ 5, further comprising a digital decoder disposed between said serial-to-parallel bit converter and said input port of said digital shift register so as to convert a transmission code of a first length to a data code of a second, shorter length prior to application of said digital data to said shift register, and a digital encoder disposed between said output port of said shift register and said optical signal modulator so as to convert said data code of said second length to said transmission code of said first length prior to application of said digital data to said optical signal modulator.

12. (Amended) A method for emulating an optical fibre, comprising:

receiving an input digitally-encoded optical signal and producing a digitally-encoded electrical signal ~~corresponding to~~ whose code is based on the code of said input digitally-encoded optical signal;

delaying said digital data for a predetermined time; and

receiving said digital data after said predetermined time and producing a delayed digitally-encoded optical signal

corresponding to said digitally-encoded electrical signal, the information transfer time from receipt of said input digitally-encoded optical signal to production of said delayed digitally-encoded optical signal being less than or equal to the information transfer time of a section of optical fibre to be emulated.

15. (Amended) The method of claim 12, wherein said step of receiving and ~~r~~reproducing said digitally-encoded electrical signal includes converting said electrical signal from serial-bit form to parallel-bit form, propagating said electrical signal through a transmission line of predetermined length at a rate substantially equal to the information transfer rate of said section of optical fibre, and then converting said electrical signal from parallel-bit form to serial-bit form.

16. (Amended) The method of claim 15, wherein said step of receiving and ~~r~~reproducing said digitally-encoded electrical signal further includes converting said electrical signal in parallel form from a transmission code of a first length to a data code of a second, shorter length prior to propagation, and, after propagation, converting said data code of said second length to said transmission code of said first length prior to converting said electrical signal from parallel-bit form to serial-bit form.

18. (Amended) The method of claim 12, wherein said step of receiving and reproducing said digitally-encoded electrical signal further includes converting said digitally encoded electrical signal from a transmission code of a first length to a data code of a second, shorter length prior to propagation, and, after propagation, converting said data code of said second length to said transmission code of said first length prior to producing a delayed digitally-encoded optical signal corresponding to said digitally-encoded electrical signal.